

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004560**Date Inspected:** 07-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1400**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Chung Fu-Kuan**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Deviation and Jacking Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components regarding the Tower and West Deviation Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the shift the QA inspector traveled to the shop to observed the scheduled work performed on the casting stem and rib on the Tower Saddle identified as T1-1. The weld build-up was performed on the casting ribs which were identified as 7Y-7U, 7Y-5U-1 and 7Y-5U-2 utilizing the Welding Procedure Specification (WPS) SJ-3012-1-1. The WPS was also used by the Intertek Testing Service (ITS) Quality Control (QC) Inspector Chung Fu-Kuan as a reference during QC verification of the Alternating Current (AC) welding parameters. The SMAW process was performed by the following JSW welding personnel; Yoshito Nakano ID 08-2011, Nakasato Kei ID 91-2247 and Iwamoto Kazuya ID 07-4366. The tower saddle was positioned so that the performance of the welding was in the flat position with the work in the horizontal plane and the weld metal deposited from above. The 5.0 diameter consumable utilized by the JSW welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as LB52-A which appeared to comply with the AWS Specification A5.1 and the AWS Electrode Classification E7016.

Later in the shift this QA inspector observed, at random intervals, the QC inspector performing QC verification of the welding parameters, the minimum preheat and maximum interpass temperatures.

The QA inspector also observed the welding and the Magnetic Particle Testing (MPT) of the Partial Joint Penetration (PJP) groove welds on the Tower Saddle identified as T1-2. The welding process utilized appeared to

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be the Shielded Metal Arc Welding (SMAW) and was performed by the following JSW welding personnel; Kobayashi Kouzou ID 08-5023 and Kato Makoto ID 08-5018. The Welding Procedure Specification (WPS) utilized by the welders appeared to be SJ-3012-2 which was also used by the Intertek Testing Service (ITS) Quality Control (QC) Inspector Chung Fu-Kuan as a reference during verification of the welding parameters. It was also noted by the QA inspector that JSW Distortion Control Plan identified as Document No. SJ-3151Rev. 3 was utilized in conjunction with the WPS. The welding of the PJP groove weld was performed on the rib to stem connection identified as weld numbers 8Y-10V (2-2) and 8Y-11V (2-3).

The QA inspector observed, at random intervals, the QC inspector performing verification the surface temperatures of and the welding parameters during the welding of the root pass and second and third fill passes.

The MPT was performed on the weld identified as 8Y-10V (2-2) by the Nikko Inspection Services (NIS) personnel QC technician, Kobayashi Kazuya utilizing an AC Yoke, Type A-6 testing unit which appeared to be manufactured by Eishin Kagaku Co., Ltd. The MPT was performed on 100% of the root pass and was conducted utilizing the MPT procedure identified as SF-MT-01. There appeared to be no relevant indications noted by the QC technician during the testing of the root pass.

The QA inspector also observed the grinding of the weld access holes at the conclusion of the removal of the run-off plates, at the inside edge face of the weld access hole located at the rib plate to stem plate connection. The finish grinding of the surfaces was performed by JSW personnel Watanabe Toshiyuki.

Foundry Shop

Later in the shift, the QA inspector traveled to the Foundry Shop to observe the continued repair welding of the rib build-up areas on the West Deviation Saddle Casting identified as W2E2. The repair welding is being conducted at Lane 1 of the Foundry Shop at the designated area identified as "The Gouging and Grinding Area." The welding was performed on the rib identified as Rib 6U by JSW welding personnel Takenami Akira ID 06-8001 utilizing the SMAW process as per the WPS SJ-3026-2. The WPS was also used by the Welding Engineer, Tomio Imai as a reference during the verification of the welding parameters and surface temperatures.

The consumable utilized by the welder appeared to be a Hobart Brothers Product identified as LB-106, with the diameter size of 5.0mm which appeared to comply with the AWS Specification A5.5 and AWS Electrode Classification E10018-G. The welding was performed in the horizontal (2G) position with the work in the vertical plane and the axis of the weld horizontal.

The QA inspector also observed the shaping process performed by JSW personnel utilizing the manual air carbon arc cutting method. The shaping task was performed on the West Deviation and the Tower Saddle identified accordingly as W2E3 and T1-2.

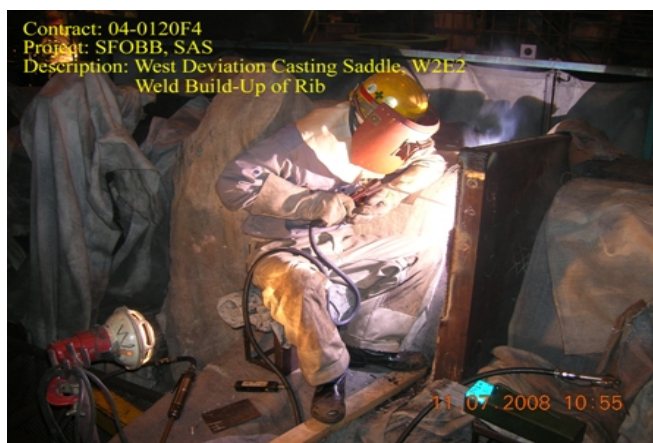
The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators were utilized during the verification of the heat control. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Chung Fu-Kuan and JSW Welding Engineer Tomio Imai appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with

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the contract documents.

See Weld Joints in Progress Inspected on page 4 of this report in regards to QA observation of the welding parameters recorded during this shift and the following digital photographs and on page 4 of this report which illustrates the observations of the activities performed on this date.



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Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	8y-10V(2-3)	SJ-3012-2	C. Fu-Kuan	160 AC	24 AC	100mm/m	184 Degrees C.	Makoto
2	7Y-7U	SJ-3012-1-1	C. Fu-Kuan	242 AC	24 AC	160mm/m	188 Degrees C.	Nakano
3	7Y-5U-2	SJ-3012-1-1	C. Fu-Kuan	246 AC	24 AC	158mm/m	186 Degrees C.	Kazuya
4	7Y-5U-1	SJ-3012-1-1	C. Fu-Kuan	240 AC	24.5 AC	163mm/m	180 Degrees C.	Kei
5	Rib 6U Build-Up	SJ-3026-2	T. Imai (ASME)	210 AC	24 AC	178mm/m	175 Degrees C.	Akira

Summary of Conversations:

There were no pertinent conversations relative to the project on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer
